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Substitute for form 1449A/B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/524945
				Filing Date	02-16-2005
				First Named Inventor	F. Parhami
				Art Unit	1633
				Examiner Name	Leavitt, Maria Gomez
				Attorney Docket Number	58086-241892
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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A1	US 6,184,215	February 6, 2001	Elias et al.	
	A2	US 6,586,189	July 1, 2003	Forman	
	A3	US 6,893,830	May 17, 2005	Janowski et al.	
	A4	US 2004/0176423	September 2004	V.M. Paralkar	
	A5	US 2006/0270645	November 30, 2006	F. Parhami	

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	B1	WO/2005/020928	October 3, 2005	Parhami F	
	B2	WO/2006/012902	September 2, 2006	Svendsen A. et al.	
	B3	WO/2007/098281 (PCT/US2007/005073)	January 11, 2007	Parhami F, et al.	

\*EXAMINER Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST 3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

NON-PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published			
	C1	Aghaloo TL, Amantea CM, Cowan CM, Richardson JA, Wu BM, Parhami F, Tetradis S. Oxysterols enhance osteoblast differentiation in vitro and bone healing in vivo. J Orthop Res. 2007 Nov;25(11):1488-97 (also known as Aghaloo 2006 in press)			
	C2	Akazawa C, Isuzuki H, Nakamura Y, Sasaki Y, Ohsaki K, Nakamura S, arakawa Y, Kohsaka S. The upregulated expression of sonic hedgehog in motor neurons after rat facial nerve axotomy. J Neuroscience 2004; 24:7923-7930			
	C3	Almeida M, Han L, Bellido T, Manolagas SC, Kousteni S. Wnt proteins prevent apoptosis of both uncommitted osteoblast progenitors and differentiated osteoblasts by beta-catenin-dependent and -independent signaling cascades involving Src/ERK and phosphatidylinositol 3-kinase/AKT. J Biol Chem. 2005 Dec 16;280(50):41342-51.			

Examiner Signature	/Maria Leavitt/	Date Considered	03/19/2009
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /ML/

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Sheet	2	of	13		

C4	Amantea CM et al. 2006. Oxysterols are novel activators of hedgehog and Wnt signaling. J Bone Miner Res 21:S1;S156	
C5	Banerjee C, McCabe LR, Choi JY, Hiebert SW, Stein JL, Stein GS, Lian JB. Runt homology domain proteins in osteoblast differentiation: AML3/CBFA1 is a major component of a bone-specific complex. J Cell Biochem. 1997 Jul 1;66(1):1-8	
C6	Bannai K, Morisaki M, Ikekawa N. Studies on steroids. Part 37. Synthesis of the four stereoisomers of 20,22-epoxycholesterol. J Chem Soc Perkins Trans 1 1979; 2116-2120	
C7	Basu S, Michaëlsson K, Olofsson H, Johansson S, Melhus H. Association between oxidative stress and bone mineral density. Biochem Biophys Res Commun. 2001 Oct 19;288(1):275-9.	
C8	Beckers L, Heeneman S, Wang L, Burkly LC, Rousch MM, Davidson NO, Gijbels MJ, de Winter MP, Daemen MJ, Lutgens E. Disruption of hedgehog signalling in ApoE -/- mice reduces plasma lipid levels, but increases atherosclerosis due to enhanced lipid uptake by macrophages. J Pathol. 2007 Aug;212(4):420-8	
C9	Bennett CN, Longo KA, Wright WS, Suva LJ, Lane TF, Hankenson KD, MacDougald OA. Regulation of osteoblastogenesis and bone mass by Wnt10b. Proc Natl Acad Sci U S A. 2005 Mar 1;102(9):3324-9.	
C10	Bennett CN, Ross SE, Longo KA, Bajnok L, Hemati N, Johnson KW, Harrison SD, MacDougald OA. Regulation of Wnt signaling during adipogenesis. J Biol Chem. 2002 Aug 23;277(34):30998-1004.	
C11	Bergman RJ, Gazit D, Kahn AJ, Gruber H, McDougall S, Hahn TJ. Age-related changes in osteogenic stem cells in mice. J Bone Miner Res 1996; 11:568-577	
C12	Bestmann HJ, Soliman FM. Synthesis and reaction of diazoacetyl chloride. Angew Chem 1979; 91:1012-1013	
C13	Bijlsma MF, Peppelenbosch MP, Spek A. Hedgehog morphogen in cardiovascular disease. Circulation 114:1985-1991; 2006	
C14	Bijlsma MF, Spek CA, Peppelenbosch MP. Hedgehog: an unusual signal transducer. BioEssays 26:387-394; 2004	
C15	Bilezikian JP, Kurland ES. Therapy of male osteoporosis with parathyroid hormone. Calcif Tissue Int 2001; 69:248-251	
C16	Bjorkhem I, Diczfalussy U. Oxysterols: friends, foes, or just fellow passengers? Arterioscler Thromb Vasc Biol 22:734-742; 2002	
C17	Bjorkhem I, Meaney S, Diczfalussy U. Oxysterols in human circulation: which role do they play? Curr Opin Lipidol 13:247-253; 2002	
C18	Bjorkhem I, Reihner E, Angelin B, Ewerth S, Akerlund J, Einarsson K. On the possible use of the serum level of 7 $\alpha$ -hydroxycholesterol as a marker for increased activity of the cholesterol 7 $\alpha$ -hydroxylase in humans. J Lipid Res 1987; 28:889-894	

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C19	Boguslawski G, Hale LV, Yu XP, Miles RR, Onyia JE, Santerre RF, Chandrasekhar S. Activation of osteocalcin transcription involves interaction of protein kinase A- and protein kinase C-dependent pathways. J Biol Chem. 2000 Jan 14;275(2):999-1006
C20	Boland GM, Perkins G, Hall DJ, Tuan RS. Wnt 3a promotes proliferation and suppresses osteogenic differentiation of adult human mesenchymal stem cells. J Cell Biochem. 2004 Dec 15;93(6):1210-30.
C21	Braunersreuther V, Mach F. Leukocyte recruitment in atherosclerosis: potential targets for therapeutic approaches? Cell Mol Life Sci 63:2079-2088; 2006
C22	Bunta W, Yoshiaki N, Takehiko O, Hisashi M. Steroids 2004, 69: 483-493
C23	Burger A, Colobert F, Hetru C, Luu B. Tetrahedron 1988, 44: 1141-1152
C24	Byon C, Gut M. Stereospecific synthesis of the four 20,22-epoxycholesterols and of (Z)-20(22)-Dehydrocholesterol. J Org Chem 1976; 41:3716-3722
C25	Byrd N, Grabel L. Hedgehog signaling in murine vasculogenesis and angiogenesis. Trends Cardiovasc Med 14:308-313; 2004
C26	Cadot C, Poirier D, Philip A. Tetrahedron 2006, 62: 4384-4392
C27	Caplan AI, Bruder SP. Mesenchymal stem cells: building blocks for molecular medicine in the 21st century. Trends Mol Med. 2001 Jun;7(6):259-64. Review.
C28	Caplan AI. The mesengenic process. Bone Repair and Regeneration 1994; 21:429-435
C29	Chan GK, Duque G. Age-related bone loss: old bone, new facts. Gerontology 2002; 48:62-71
C30	Chaudhuri NK, Williams IG, Nickolson R, Gut M. Stereochemistry of the addition reactions of Grignard reagents to 20-keto steroids. Syntheses of 17 $\alpha$ ,20 $\alpha$ -dihydroxycholesterol. J Org Chem 1969; 34:3759-3766
C31	Chen D, Zhao M, Mundy GR. Bone morphogenetic proteins. Growth Factors. 2004 Dec;22(4):233-41. Review.
C32	Chen JK, Iaipale J, Cooper MK, Beachy PA. Inhibition of hedgehog signaling by direct binding of cyclopamine to Smoothened. Genes & Develop 2002; 16:2743-2748
C33	Chen XD, Shi S, Xu T, Robey PG, Young MF. Age-related osteoporosis in biglycan-deficient mice is related to defects in bone marrow stromal cells. J Bone Miner Res. 2002 Feb;17(2):331-40.
C34	Chuu CP, Chen RY, Hiipakka RA, Kokontis JM, Warner KV, Xiang J, Liao S. The liver X receptor agonist T0901317 acts as androgen receptor antagonist in human prostate cancer cells. Biochem Biophys Res Commun. 2007 Jun 1;357(2):341-6. Epub 2007 Mar 28
C35	Chuu CP, Hiipakka RA, Kokontis JM, Fukuchi J, Chen RY, Liao S. Inhibition of tumor growth and progression of LNCaP prostate cancer cells in athymic mice by androgen and liver X receptor agonist. Cancer Res. 2006 Jul 1;66(13):6482-6

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C36	Clément-Lacroix P, Ai M, Morvan F, Roman-Roman S, Vayssi�re B, Belleville C, Estrera K, Warman ML, Baron R, Rawadi G. Lrp5-independent activation of Wnt signaling by lithium chloride increases bone formation and bone mass in mice. Proc Natl Acad Sci U S A. 2005 Nov 29;102(48):17406-11 .
C37	Clevers H. Wnt/beta-catenin signaling in development and disease. Cell. 2006 Nov 3;127(3):469-80. Review .
C38	Cohen MM. The hedgehog signaling network. Am J Med Gen 2003; 123A:5-28
C39	Cummings SR, Melton LJ. Epidemiology and outcomes of osteoporotic fractures. Lancet. 2002 May 18;359(9319):1761-7. Review .
C40	Day TF, Guo X, Garrett-Beal L, Yang Y. Wnt/beta-catenin signaling in mesenchymal progenitors controls osteoblast and chondrocyte differentiation during vertebrate skeletogenesis. Dev Cell. 2005 May;8(5):739-50 .
C41	de la Rosa MA, Velarde E, Guzman A. Synthetic Commun. 1990, 20: 2059-2064
C42	Debiais F, Lef�vre G, Lemonnier J, Le M�e S, Lasmoles F, Mascarelli F, Marie PJ. Fibroblast growth factor-2 induces osteoblast survival through a phosphatidylinositol 3-kinase-dependent, -beta-catenin-independent signaling pathway. Exp Cell Res. 2004 Jul 1;297(1):235-46 .
C43	Devos A, Remion J, Frisque-Hesbain AM, Colens A, Ghose L. Syntheses of acyl halides under very mild conditions. J Chem soc Chem Commun 1979; 1180-1181
C44	Drew J, Letellier M, Morand P, Szabo AG. J of Org. Chem 1987, 52: 4047-4052 (no detailed info found in PubMed)
C45	Ducy P, Zhang R, Geoffroy V, Ridall AL, Karsenty G. Osf2/Cbfa1: A transcriptional activator of osteoblast differentiation. Cell 1997; 89:747-754
C46	Ducy P. Cbfa1: a molecular switch in osteoblast biology. Dev Dyn. 2000 Dec;219(4):461-71
C47	Dwyer JR, Sever N, Carlson M, Nelson SF, Beachy PA, Parhami F. Oxysterols are novel activators of the hedgehog signaling pathway in pluripotent mesenchymal cells. J Biol Chem 2007, 282: 8956-8968
C48	Eastell R. Treatment of postmenopausal osteoporosis. New Eng J Med 1998; 338(11):736-746
C49	Edwards PA, Ericsson J. Sterols and isoprenoids: signaling molecules derived from the cholesterol biosynthetic pathway. Annu Rev Biochem 68:157-185; 1999
C50	Edwards PA, Kast HR, Anisfeld AM. BAREing it all: the adoption of LXR and FXR and their roles in lipid metabolism. J Lipid Res 2002; 43:2-12
C51	Ettinger MP. Aging bone and osteoporosis: strategies for preventing fractures in the elderly. Arch Intern Med. 2003 Oct 13;163(18):2237-46. Review

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PTO/58108a/b (07-05)  
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Sheet	5	of	13	

C52	Fajas L, Schoonjans K, Gelman L, Kim JB, Najib J, Martin G, Fruchart JC, Briggs M, Spiegelman BM, Auwerx J. Regulation of peroxisome proliferator-activated receptor gamma expression by adipocyte differentiation and determination factor 1/sterol regulatory element binding protein 1: implications for adipocyte differentiation and metabolism. Mol Cell Biol. 1999 Aug;19(8):5495-503		
C53	Franceschi RT, Wang D, Krebsbach PH, Rutherford RB. Gene therapy for bone formation: in vitro and in vivo osteogenic activity of an adenovirus expressing BMP7. J Cell Biochem. 2000 Jun 6;78(3):476-86		
C54	Franceschi RT, Xiao G. Regulation of the osteoblast-specific transcription factor, Runx2: responsiveness to multiple signal transduction pathways. J Cell Biochem. 2003 Feb 15;88(3):446-54. Review		
C55	Fujita T, Azuma Y, Fukuyama R, Hattori Y, Yoshida C, Koida M, Ogita K, Komori T. Runx2 induces osteoblast and chondrocyte differentiation and enhances their migration by coupling with PI3K-Akt signaling. J Cell Biol. 2004 Jul 5;166(1):85-95. Epub 2004 Jun 28.		
C56	Fukuchi J, Kokontis JM, Hiipakka RA, Chuu CP, Liao S. Antiproliferative effect of liver X receptor agonists on LNCaP human prostate cancer cells. Cancer Res. 2004 Nov 1;64(21):7686-9		
C57	Garrett IR, Chen D, Gutierrez G, Zhao M, Escobedo A, Rossini G, Harris SE, Gallwitz W, Kim KB, Hu S, Crews CM, Mundy GR. Selective inhibitors of the osteoblast proteasome stimulate bone formation in vivo and in vitro. J Clin Invest. 2003 Jun;111(11):1771-82		
C58	Gaur T, Lengner CJ, Hovhannisyan H, Bhat RA, Bodine PV, Komm BS, Javed A, van Wijnen AJ, Stein JL, Stein GS, Lian JB. Canonical WNT signaling promotes osteogenesis by directly stimulating Runx2 gene expression. J Biol Chem. 2005 Sep 30;280(39):33132-40. Epub 2005 Jul 25		
C59	Gen AVD, Wiedhaup K, Swoboda JJ, Dunathan HC, Johnson WS. J Am Chem Soc 1973, 95: 2656-2663		
C60	Ghosh-Choudhury N, Abboud SL, Nishimura R, Celeste A, Mahimainathan L, Choudhury GG. Requirement of BMP-2-induced phosphatidylinositol 3-kinase and Akt serine/threonine kinase in osteoblast differentiation and Smad-dependent BMP-2 gene transcription. J Biol Chem. 2002 Sep 6;277(36):33361-8. Epub 2002 Jun 25. Erratum in: J Biol Chem. 2003 May 2;278(18):16452.		
C61	Ghosh-Choudhury N, Mandal CC, Choudhury GG. Statin-induced Ras activation integrates the phosphatidylinositol 3-kinase signal to Akt and MAPK for bone morphogenetic protein-2 expression in osteoblast differentiation. J Biol Chem. 2007 Feb 16;282(7):4983-93.		
C62	Gimble JM, Robinson Covered Entity, Wu X, Kelly KA, Rodriguez BR, Kliever SA, Lehmann JM, Morris DC. Peroxisome proliferator-activated receptor-γ activation by thiazolidinediones induces adipogenesis in bone marrow stromal cells. Mol Pharmacol 1996; 50:1087-1094		
C63	Goltzman D. Discoveries, drugs and skeletal disorders. Nat Rev Drug Discov. 2002 Oct;1(10):784-96		
Examiner Signature	/Maria Leavitt/	Date Considered	03/19/2009

PTO/SB/08a/b (07-05)

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Sheet	6	of	13	

C64	Gordon MD, Nusse R. Wnt signaling: multiple pathways, multiple receptors, and multiple transcription factors. J Biol Chem. 2006 Aug 11;281(32):22429-33. Epub 2006 Jun 22. Review. .
C65	Gori F, Thomas T, Hicok KC, Spelsberg TC, Riggs BL. Differentiation of human marrow stromal precursor cells: bone morphogenetic protein-2 increases OSF2/CBFA1, enhances osteoblast commitment, and inhibits late adipocyte maturation. J Bone Miner Res. 1999 Sep;14(9):1522-35
C66	Hanley K, Ng DC, He SS, Lau P, Min K, Elias PM, Bikle DD, Mangelsdorf DJ, Williams ML, Feingold KR. Oxysterols induce differentiation in human keratinocytes and increase AP-1-dependent involucrin transcription. J Invest Dermatol 2000; 114:545-553
C67	Hayden JM, Brachova L, Higgins K, Obermiller L, Sevanian A, Khandrika S, Reaven PD. Induction of monocyte differentiation and foam cell formation in vitro by 7-ketocholesterol. J Lipid Res 2002; 43:26-35
C68	Hicok KC, Thomas T, Gori F, Rickard DJ, Spelsberg TC, Riggs BL. Development and characterization of conditionally immortalized osteoblast precursor cell lines from human bone marrow stroma. J Bone Miner Res 1998; 13(2):205-2217
C69	Hill TP, Später D, Taketo MM, Birchmeier W, Hartmann C. Canonical Wnt/beta-catenin signaling prevents osteoblasts from differentiating into chondrocytes. Dev Cell. 2005 May;8(5):727-38 .
C70	Honda M, Komori T. Biologically active glycosides from Asteroidia. XI. Structures of thornasterols A and B. Tetrahedron Lett 1986; 27:3396-3372
C71	Honda T, Katoh M, Yamane S. J Chem Soc., Perkin Trans. 1996, 1: 2291-2296 (no detailed info found in PubMed)
C72	Hosack DA, Dennis G Jr, Sherman BT, Lane HC, Lempicki RA. Identifying biological themes within lists of genes with EASE. Genome Biol. 2003;4(10):R70. Epub 2003 Sep 11
C73	Hu H, Hilton MJ, Tu X, Yu K, Ornitz DM, Long F. Sequential roles of hedgehog and Wnt signaling in osteoblast development. Development 132:49-60; 2004
C74	Ichiohka N, Inaba M, Kushida T, Esumi T, Takahara K, Inaba K, Ogawa R, Iida H, Ikehara S. Prevention of senile osteoporosis in SAMP6 mice by intrabone marrow injection of allogeneic bone marrow cells. Stem Cells. 2002;20(6):542-51
C75	Iwata H, Sakano S, Itoh T, Bauer TW. Demineralized bone matrix and native bone morphogenetic protein in orthopaedic surgery. Clin Orthop Relat Res. 2002 Feb;(395):99-109. Review.
C76	Johnson ML, Harnish K, Nusse R, Van Hul W. LRP5 and Wnt signaling: a union made for bone. J Bone Miner Res. 2004 Nov;19(11):1749-57 .
C77	Jung ME, Johnson TW. First total synthesis of Zestobergesteron A and active structural analogues of the Zestobergesteron. Organic Lett 1999; 1:1671-1674

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C78	Juvel LK, Andresen SM, Schuster GU, Dalen KT, Tobin KA, Hollung K, Haugen F, Jacinto S, Ulven SM, Bamberg K, Gustafsson JA, Nebb HI. On the role of liver X receptors in lipid accumulation in adipocytes. Mol Endocrinol. 2003 Feb;17(2):172-82
C79	Kametani T, Tsubuki M, Higurashi K, Honda T. J Org Chem 1986, 51: 2932-2939
C80	Kennell JA, MacDougald OA. Wnt signaling inhibits adipogenesis through beta-catenin-dependent and -independent mechanisms. J Biol Chem. 2005 Jun 24;280(25):24004-10.
C81	Kha HT, Basseri B, Shouhed D, Richardson J, Tetradis S, Hahn TJ, Parhami F. Oxysterols regulate differentiation of mesenchymal stem cells: pro-bone and anti-fat. J Bone Miner Res 19:830-840; 2004
C82	Kim JB, Wright HM, Wright M, Spiegelman BM. ADD1/SREBP1 activates PPARgamma through the production of endogenous ligand. Proc Natl Acad Sci U S A. 1998 Apr 14;95(8):4333-7
C83	Kim WK, Meliton V, Amantea CM, Hahn TJ, Parhami F. 20(S)-hydroxycholesterol inhibits PPARgamma expression and adipogenic differentiation of bone marrow stromal cells through a hedgehog-dependent mechanism. J Bone Miner Res. 2007 Nov;22(11):1711-9.
C84	Komori T. Regulation of skeletal development by the Runx family of transcription factors. J Cell Biochem. 2005 Jun 1;95(3):445-53
C85	Kurland ES, Cosman F, McMahon DJ, Rosen CJ, Lindsay R, Bilezikian J. Parathyroid hormone as a therapy for idiopathic osteoporosis in men: effects on bone mineral density and bone markers. J Clin Endocrinol Metab 2000; 85:3069-3076
C86	Lehmann IM, Kliewer SA, Moore LB, Smith-Oliver TA, Oliver BB, Su J, Sundseth SS, Winegar DA, Blanchard DE, Spencer TA, Willson TM. Activation of the nuclear receptor LXR by oxysterols defines a new hormone response pathway. J Biol Chem 1997; 272:3137-3140
C87	Li RH, Wozney JM. Delivering on the promise of bone morphogenetic proteins. Trends Biotechnol. 2001 Jul;19(7):255-65. Review.
C88	Libby P. Inflammation in atherosclerosis. Nature 420:868-874; 2002
C89	Lieberman JR, Daluiski A, Einhorn TA. The role of growth factors in the repair of bone. J Bone & Joint Surg 2002; 84A:1032-1044
C90	Long F, Zhang XM, Karp S, Yang Y, McMahon AP. Genetic manipulation of hedgehog signaling in the endochondral skeleton reveals a direct role in the regulation of chondrocyte proliferation. Development 2001; 128:5099-5108
C91	Lum L, Beachy PA. The hedgehog response network: sensors, switches, and routers. Science 304:1755-1759; 2004
C92	Maeda T, Matsunuma A, Kawane T, Horiuchi N. Simvastatin promotes osteoblast differentiation and mineralization in MC3T3-E1 cells. Biochem Biophys Res Commun. 2001 Jan 26;280(3):874-7

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C93	Maggio D, Barabani M, Pierandrei M, Polidori MC, Catani M, Mecocci P, Senin U, Pacifici R, Cherubini A. Marked decrease in plasma antioxidants in aged osteoporotic women: results of a cross-sectional study. J Clin Endocrinol Metab. 2003 Apr;88(4):1523-7	
C94	Majors AK, Boehm CA, Nitto H, Midura RJ, Muschler GF. Characterization of human bone marrow stromal cells with respect to osteoblastic differentiation. J Bone & Joint Surgery 1997; 15:546-557	
C95	Manolagas SC. Cellular and molecular mechanisms of osteoporosis. Aging 1998; 10(3):182-190	
C96	Manolagas SC. Birth and death of bone cells: basic regulatory mechanisms and implications for the pathogenesis and treatment of osteoporosis. Endocr Rev. 2000 Apr;21(2):115-37	
C97	Mazzocchi PH, Wilson FK, Klinger L, Miniamikawa S. J Org Chem 1983, 48: 2981-2989 (no detailed info found in PubMed)	
C98	Mbalaviele G, Sheikh S, Stains JP, Salazar VS, Cheng SL, Chen D, Civitelli R. Beta-catenin and BMP-2 synergize to promote osteoblast differentiation and new bone formation. J Cell Biochem. 2005 Feb 1;94(2):403-18.	
C99	Meaney S, Hassan M, Sakinis A, Lutjohann D, von Bergmann K, Wennmalm A, Diczfalussy U, Bjorkhem I. Evidence that the major oxysterols in human circulation originate from distinct pools of cholesterol: a stable isotope study. J Lipid Res 2001; 42:70-78	
C100	Melton LJ. How many women have osteoporosis now? J Bone Miner Res 1995; 10:175-177	
C101	Meunier P, Aaron J, Edouard C, Vignon G. Osteoporosis and the replacement of cell populations of the marrow by adipose tissue: A quantitative study of 84 iliac bone biopsies. Clinical Orthopedics and Related Res 1971; 80:147-154	
C102	Mitsunobu O. The use of diethyl azodicarboxylate and triphenylphosphine in syntheses and transformation of natural products. Synthesis 1981; 1-28	
C103	Miyamoto K, Suzuki H, Yamamoto S, Saitoh Y, Ochiai E, Moritani S, Yokogawa K, Waki Y, Kasugai S, Sawanishi H, Yamagami H. Prostaglandin E2-mediated anabolic effect of a novel inhibitor of phosphodiesterase 4, XT-611, in the in vitro bone marrow culture. J Bone Miner Res. 2003 Aug;18(8):1471-7	
C104	Mody N, Parhami F, Sarafian TA, Demer LL. Oxidative stress modulates osteoblastic differentiation of vascular and bone cells. Free Radic Biol Med. 2001 Aug 15;31(4):509-19	
C105	Moerman EJ, Teng K, Lipschitz DA, Lecka-Czernik B. Aging activates adipogenic and suppresses osteogenic programs in mesenchymal marrow stroma/stem cells: the role of PPAR-gamma2 transcription factor and TGF-beta/BMP signaling pathways. Aging Cell. 2004 Dec;3(6):379-89	
C106	Morisaki M, Sato S, Ikekawa N. Studies on steroids. XLV. Synthesis of the four stereoisomers of 20,22-dihydroxycholesterol. Chem Pharm Bull 1977; 25:2576-2583	
C107	Mullor JL, Dahmane N, Sun T, Ruiz i Altaba A. Wnt signals are targets and mediators of Gli function. Curr Biol. 2001 May 15;11(10):769-73.	

Examiner Signature	/Maria Leavitt/	Date Considered	03/19/2009
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Examiner Name				Leavitt, Maria Gomez	
Attorney Docket Number				58086-241892	
Sheet	9	of	13		

C108	Mullor JL, Sanchez P, Altaba AR. Pathways and consequences: hedgehog signaling in human disease. Trends Cell Bio 2002; 12:562-569
C109	Mundy GR. Directions of drug discovery in osteoporosis. Annu Rev Med 2002; 53:337-354
C110	Oikkonen VM, Lehto M. Oxysterols and oxysterol binding proteins: role in lipid metabolism and atherosclerosis. Ann Med 36:562-572; 2004
C111	Otto F, Thronell AP, Crompton T, Denzel A, Gilmour KC, Rosewell IR, Stamp GWH, Beddington RSP, Mundlos S, Olsen BR, Selby PB, Owen MJ. Cbfa1, a candidate gene for cleidocranial dysplasia syndrome, is essential for osteoblast differentiation and bone development. Cell 1997; 89:765-771
C112	Panakova D, Sprong H, Marois E, Thiele C, Eaton S. Lipoprotein particles are required for hedgehog and wingless signaling. Nature 435:58-65; 2005
C113	Parhami F, Mody N, Gharavi N, Ballard AJ, Tintut Y, Demer LL. Role of the cholesterol biosynthetic pathway in osteoblastic differentiation of marrow stromal cells. J Bone Miner Res. 2002 Nov;17(11):1997-2003
C114	Peet DJ, Janowski BA, Mangelsdorf DJ. The LXRs: a new class of oxysterol receptors. Curr Opin Genetics & Develop 1998; 8:571-575
C115	Pittenger MF, Mackay AM, Beck SC, Jaiswal RK, Douglas R, Mosca JD, Moorman MA, Simonetti DW, Craig S, Marshak DR. Multilineage potential of adult human mesenchymal stem cells. Science 1999; 284:143-147
C116	Poza J, Rega M, Paz V, Alonso B, Rodríguez J, Salvador N, Fernández A, Jiménez C. Synthesis and evaluation of new 6-hydroximinosteroid analogs as cytotoxic agents. Bioorg Med Chem. 2007 Jul 15;15(14):4722-40 .
C117	Prockop DJ. Marrow stromal cells as stem cells for nonhematopoietic tissues. Science 1997; 276:71-74
C118	Quarto R, Thomas D, Liang CT. Bone progenitor cell deficits and the age-associated decline in bone repair capacity. Calcif Tissue Int. 1995 Feb;56(2):123-9
C119	Raisz LG. The osteoporosis revolution. Ann Int Med 1997; 126:458-462
C120	Rao AS. Addition reactions with formation of carbon-oxygen bonds: (1) General methods of epoxidation. Comprehensive Organic Synthesis, Pergamon Press, Eds. Trost BM, Fleming I. 1991; 7 (chapter 3.1); 376-380
C121	Rawadi G, Vayssière B, Dunn F, Baron R, Roman-Roman S. BMP-2 controls alkaline phosphatase expression and osteoblast mineralization by a Wnt autocrine loop. J Bone Miner Res. 2003 Oct;18(10):1842-53 .
C122	Reeve J, Mitchell A, Tellez M, Hulme P, Green JR, Wardley-Smith B, Mitchell R. Treatment with parathyroid peptides and estrogen replacement for severe postmenopausal vertebral osteoporosis: prediction of long-term responses in spine and femur. J Bone Miner Res 2001; 19:102-114

Examiner Signature	/Maria Leavitt/	Date Considered	03/19/2009
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PTO/IS/06a/b (07-05)  
Approved for use through 07/31/2008 OMB 0551-0031  
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Examiner Name				Leavitt, Maria Gomez	
Attorney Docket Number				58086-241892	

C123	Reinholz GG, Getz B, Pederson L, Sanders ES, Subramaniam M, Ingle JN, Spelsberg TC. Bisphosphonates directly regulate cell proliferation, differentiation, and gene expression in human osteoblasts. Cancer Res. 2000 Nov 1;60(21):6001-7	
C124	Richardson JA et al. 2005, Characterization of osteogenic oxysterols and their molecular mechanism(s) of action, J Bone Miner Res 20:S1;S414	
C125	Richardson JA, Amantea CM, Kianmahd B, Tetradis S, Lieberman JR, Hahn TJ, Parhami F. Oxysterol-induced osteoblastic differentiation of pluripotent mesenchymal cells is mediated through a PKC- and PKA-dependent pathway. J Cell Biochem. 2007 Apr 1;100(5):1131-45 (same as 2006 in press).	
C126	Rickard DJ, Sullivan TA, Shenker BJ, Leboy PS, Kazhdan I. Induction of rapid osteoblast differentiation in rat bone marrow stromal cell cultures by dexamethasone and BMP-2. Dev Biol. 1994 Jan;161(1):218-28	
C127	Riggs BL, Melton LJ 3rd. The prevention and treatment of osteoporosis. N Engl J Med. 1992 Aug 27;327(9):620-7. Review	
C128	Riobó NA, Lu K, Ai X, Haines GM, Emerson CP Jr. Phosphoinositide 3-kinase and Akt are essential for Sonic Hedgehog signaling. Proc Natl Acad Sci U S A. 2006 Mar 21;103(12):4505-10.	
C129	Rodan GA, Martin TJ. Therapeutic approaches to bone diseases. Science 2000; 289:1508-1514	
C130	Rodda SJ, McMahon AP. Distinct roles for Hedgehog and canonical Wnt signaling in specification, differentiation and maintenance of osteoblast progenitors. Development. 2006 Aug;133(16):3231-44.	
C131	Ruan B, Wilson WK, Shroepfer GJ. An improved synthesis of (20R,22R)-cholest-5-ene-3 $\beta$ ,20,22-triol, and intermediate in steroid hormone formation and an activator of nuclear orphan receptor LXRA. Steroids 1999; 64:385-395	
C132	Rubin CD. Treatment considerations in the management of age-related osteoporosis. The American J Medical Sciences 1999; 318 (3):158-170	
C133	Russell DW. Oxysterol biosynthetic enzymes. Biochimica et Biophysica Acta 2000; 1529:126-135	
C134	Sanchez P, Hernández AM, Stecca B, Kahler AJ, DeGueme AM, Barrett A, Beyna M, Datta MW, Datta S, Ruiz i Altaba A. Inhibition of prostate cancer proliferation by interference with SONIC HEDGEHOG-GLI1 signaling. Proc Natl Acad Sci U S A. 2004 Aug 24;101(34):12561-6.	
C135	Schaafsma et al. 2001. Delay of natural bone loss by higher intake of specific minerals and vitamins. Crit Rev Food Sci Nutr 41:225-249	
C136	Schambony A, Wedlich D. Wnt-5A/Ror2 regulate expression of XPAPC through an alternative noncanonical signaling pathway. Dev Cell. 2007 May;12(5):779-92	

Examiner Signature	/Maria Leavitt/	Date Considered	03/19/2009
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First Named Inventor				F. Parhami	
Art Unit				1633	
Examiner Name				Leavitt, Maria Gomez	
Attorney Docket Number				58086-241892	

	C137	Schroepfer GJ Jr. Oxysterols: modulators of cholesterol metabolism and other processes. <i>Physiol Rev.</i> 2000 Jan;80(1):361-554. Review.	
	C138	Seo JB, Moon HM, Kim WS, Lee YS, Jeong HW, Yoo EJ, Ham J, Kang H, Park MG, Steffensen KR, Stulnig TM, Gustafsson JA, Park SD, Kim JB. Activated liver X receptors stimulate adipocyte differentiation through induction of peroxisome proliferator-activated receptor gamma expression. <i>Mol Cell Biol.</i> 2004 Apr;24(8):3430-44	
	C139	Shea CM, Edgar CM, Einhorn TA, Gerstenfeld LC. BMP treatment of C3H10T1/2 mesenchymal stem cells induces both chondrogenesis and osteogenesis. <i>J Cell Biochem.</i> 2003 Dec 15;90(6):1112-27	
	C140	Shimaoka H, Dohi Y, Ohgushi H, Ikeuchi M, Okamoto M, Kudo A, Kirita T, Yonemasu K. Recombinant growth/differentiation factor-5 (GDF-5) stimulates osteogenic differentiation of marrow mesenchymal stem cells in porous hydroxyapatite ceramic. <i>J Biomed Mater Res A.</i> 2004 Jan 1;68(1):168-76	
	C141	Shouhed D, Kha HT, Richardson JA, Amantea CM, Hahn TJ, Parhami F. Osteogenic oxysterols inhibit the adverse effects of oxidative stress on osteogenic differentiation of marrow stromal cells. <i>J Cell Biochem</i> 95:1276-1283; 2005	
	C142	Silva-Vargas V, Lo Celso C, Giangreco A, Ofstad T, Prowse DM, Braun KM, Watt FM. Beta-catenin and Hedgehog signal strength can specify number and location of hair follicles in adult epidermis without recruitment of bulge stem cells. <i>Dev Cell.</i> 2005 Jul;9(1):121-31 .	
	C143	Sohal RS, Mockett RJ, Orr WC. Mechanisms of aging: an appraisal of the oxidative stress hypothesis. <i>Free Radic Biol Med.</i> 2002 Sep 1;33(5):575-86. Review.	
	C144	Spinella-Jaegle S, Rawadi G, Kawai S, Gallea S, Faucheu C, Mollat P, Courtois B, Bergaud B, Ramez V, Blanchet AM, Adelmant G, Baron R, Roman-Roman S. Sonic hedgehog increases the commitment of pluripotent mesenchymal cells into the osteoblastic lineage and abolishes adipocytic differentiation. <i>J Cell Sci</i> 114:2085-2094; 2001	
	C145	Spiro RC, Thompson AY, Poser JW. Spinal fusion with recombinant human growth and differentiation factor-5 combined with a mineralized collagen matrix. <i>Anat Rec.</i> 2001 Aug 1;263(4):388-95	
	C146	Stein GS, Lian JB. Molecular mechanisms mediating proliferation/differentiation interrelationships during progressive development of the osteoblast phenotype. <i>Endocrine Rev</i> 14:424-442; 1993	
	C147	Stewart GA, Hoyne GF, Ahmad SA, Jarman E, Wallace WA, Harrison DJ, Haslett C, Lamb JR, Howie SE. Expression of the developmental Sonic hedgehog (Shh) signalling pathway is up-regulated in chronic lung fibrosis and the Shh receptor patched1 is present in circulating T lymphocytes. <i>J Pathol</i> 199:488-495; 2003	
	C148	St-Jacques B, Hammerschmidt M, McMahon P. Indian hedgehog signaling regulates proliferation and differentiation of chondrocytes and is essential for bone formation. <i>Genes Dev</i> 1999; 13:2072-2086	

Examiner Signature	/Maria Leavitt/	Date Considered	03/19/2009
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PTO/SB/08a/b (07-05)

Approved for use through 07/31/2008. OMB 0651-0031

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				Examiner Name	Leavitt, Maria Gomez
Sheet	12	of	13	Attorney Docket Number	58086-241892

C149	Suh JM, Gao X, McKay J, McKay R, Salo Z, Graff JM. Hedgehog signaling plays a conserved role in inhibiting fat formation. Cell Metab. 2006 Jan;3(1):25-34
C150	Swarthout JT, D'Alonzo RC, Selvamurugan N, Partridge NC. Parathyroid hormone-dependent signaling pathways regulating genes in bone cells. Gene. 2002 Jan 9;282(1-2):1-17. Review
C151	Taipale J, Beachy PA. The Hedgehog and Wnt signalling pathways in cancer. Nature. 2001 May 17;411(6835):349-54. Review.
C152	Taylor FR, Kandutsch AA, Gayen AK, Nelson JA, Nelson SS, Phirwa S, Spencer TA. 24,25-Epoxysterol metabolism in cultured mammalian cells and repression of 3-hydroxy-3-methylglutaryl-CoA reductase. J Biol Chem. 1986 Nov 15;261(32):15039-44
C153	Väänänen HK. Mesenchymal stem cells. Ann Med. 2005;37(7):469-79. Review.
C154	Valentin-Opran A, Wozney J, Cimma C, Lilly L, Riedel GE. Clinical evaluation of recombinant human bone morphogenetic protein-2. Clin Orthop & Related Res 2002; 305:110-120
C155	Velgova H, Cerny V, Sorm F, Slama K. Collect. Czech. Chem. Commun. 1969, 34: 3354-3375
C156	Vine DF, Mamo JCL, Beilin LJ, Mori TA, Croft KD. Dietary oxysterols are incorporated in plasma triglyceride-rich lipoproteins, increase their susceptibility to oxidation and increase aortic cholesterol concentrations in rabbits. J Lipid Res 1998; 1995-2004
C157	Wang GJ, Cui Q, Balian G. The Nicolas Andry award. The pathogenesis and prevention of steroid-induced osteonecrosis. Clin Orthop Relat Res. 2000 Jan;(370):295-310
C158	Watson KE, Bostrom K, Ravindranath R, Lam T, Norton B, Demer LL. TGF-beta and 25-hydroxycholesterol stimulate osteoblast-like vascular cells to calcify. J Clin Invest 93:2106-2113; 1994
C159	Westendorf JJ, Kahler RA, Schroeder TM. nt signaling in osteoblasts and bone diseases. ene. 2004 Oct 27;341:19-39. Review.
C160	Woo BH, Fink BF, Page R, Schrier JA, Jo YW, Jiang G, DeLuca M, Vasconez HC, DeLuca PP. Enhancement of bone growth by sustained delivery of recombinant human bone morphogenetic protein-2 in a polymeric matrix. Pharm Res 2001; 18:1747-1753
C161	Yamaguchi A, Komori T, Suda T. Regulation of osteoblast differentiation mediated by bone morphogenetic proteins, hedgehogs, and Cbfa1. Endocrine Rev 2000; 21:393-411
C162	Yang D, Guo J, Divieti P, Brinhurst FR. Parathyroid hormone activates PKC-delta and regulates osteoblastic differentiation via a PLC-independent pathway. Bone. 2006 Apr;38(4):485-96. Epub 2005 Dec 1
C163	Yang X, Karsenty G. Transcription factors in bone: developmental and pathological aspects. Trends Mol Med. 2002 Jul;8(7):340-5. Review

Examiner Signature	/Maria Leavitt/	Date Considered	03/19/2009
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Substitute for form 1449A/B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>		PTO/SB/08a/b (07-05) Approved for use through 07/31/2008 OMB 0691-0031 U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number	
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Examiner Name	Leavitt, Maria Gomez		
Attorney Docket Number	58086-241892		

C164	Yoon ST, Boden SD. Osteoinductive molecules in orthopaedics: basic science and preclinical studies. Clin Orthop & Related Res 2002; 495:33-43	
C165	Yoshida CA, Furuichi T, Fujita T, Fukuyama R, Kanatani N, Kobayashi S, Satake M, Takada K, Komori T. Core-binding factor beta interacts with Runx2 and is required for skeletal development. Nat Genet. 2002 Dec;32(4):633-8.	
C166	Yoshida K, Oida H, Kobayashi T, Maruyama T, Tanaka M, Katayama T, Yamaguchi K, Segi E, Tsuboyama T, Matsushita M, Ito K, Ito Y, Sugimoto Y, Ushikubi F, Ohuchida S, Kondo K, Nakamura T, Narumiya S. Stimulation of bone formation and prevention of bone loss by prostaglandin E EP4 receptor activation. Proc Natl Acad Sci U S A. 2002 Apr 2;99(7):4580-5. Epub 2002 Mar 26 (author type: Yoshida)	
C167	Zanchetta P, Lagar de N, Guezennec J. Systematic effects on bone healing of a new hyaluronic acid-like bacterial exopolysaccharide. Calcif Tissue Int 2003; 73:232-236	
C168	Zelcer N, Tontoz P. Liver X receptors as integrators of metabolic and inflammatory signaling. J Clin Invest 116:607-614; 2006	
C169	Zhao M, Qiao M, Harris SE, Chen D, Oyajobi BO, Mundy GR. The zinc finger transcription factor Gli2 mediates bone morphogenetic protein 2 expression in osteoblasts in response to hedgehog signaling. Mol Cell Biol 26:6197-6208; 2006	
C170	Zhao M, Qiao M, Oyajobi BO, Mundy GR, Chen D. E3 ubiquitin ligase Smurf1 mediates core-binding factor alpha/Runx2 degradation and plays a specific role in osteoblast differentiation. J Biol Chem. 2003 Jul 25;278(30):27939-44.	
C171	Ziros PG, Gil AP, Georgakopoulos T, Habeos I, Kletsas D, Basdra EK, Papavassiliou AG. The bone-specific transcriptional regulator Cbfa1 is a target of mechanical signals in osteoblastic cells. J Biol Chem. 2002 Jun 28;277(26):23934-41	

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